

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	April 25, 2020
Hours:	19:00 Hours

Date	Time	Load(MW)
27-Dec-18	18:18hrs	399.35MW

Sl. No.	Hydropower Plant	Unit	MW	Name of Feeders	Load (MW)	Sign	Remarks
1	1020MW THP	Unit- I	140.24	400kV THP - Siliguri Fdr- I	0.00	+	Unit- II,III,IV & V standby. 400kV THP-SIL I Maintenance
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	63.61	+	
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	59.43	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	122.37	+	
		Unit- V	0.00	400kV Malbase - Siliguri	46.92	+	
		Unit- VI	111.09	-	-	-	
		Total	251.33	Error at Station/Auxiliary Consumption/Losses	5.92		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	84.30	+	Unit- II & IV Standby & Unit I AMP(11 to 30.4.2020). 400kV MHP-JLG II & III Standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	170.24	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	85.01	+	
		-	-	200MVA, 400/132kV ICT	0.00		
		-	-	(Local Load)			
		Total	170.24	Error at Station/Auxiliary Consumption/Losses	0.93		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	39.05	+	Unit-I under shutdown till 30th April and Unit III standby. 220kV CHP-Mal under shutdown till 30.4.2020.
		Unit- II	49.61	220kV CHP - Birpara Fdr- II	39.02	+	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00	+	
		Unit- IV	74.63	220kV CHP - Semtokha Fdr- IV	24.90	+	
		-	-	220kV Malbase - Birpara Fdr.	-71.20	-	
		-	-	66kV CHP - Chumdo Fdr.	11.06	+	
		-	-	66kV CHP - Gedu Fdr.	5.19	+	
		Total	124.24	Error at Station/Auxiliary Consumption/Losses	3.33		
4	24MW BHP (U/S)	Unit- I	4.79	220kV BHP - Semtokha Fdr.	17.98	+	U/S & L/S Unit II standby
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	11.83	+	
		Total	4.79	220kV BHP - Tsirang Fdr.	-16.50	-	
	40MW BHP (L/S)	Unit- I	10.61	5MVA, 66/11kV TFR	0.73	+	
		Unit- II	0.00	30MVA ICT, 220/66kV			
		Total	10.61	Error at Station/Auxiliary Consumption/Losses	1.36		
5	126MW DHPC	Unit-I	18.66	220kV DHPC - Tsirang Fdr.	18.44	+	Unit-II Standby
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	18.66	Error at Station/Auxiliary Consumption/Losses	0.22		
6	60MW KHP	Unit- I	16.50	132kV KHP - Nangkor Fdr- I	0.00	+	132kV KHP-Nangkor shutdown. 220kV JLG- TSI line under breakdown.
		Unit-II	0.00	132kV KHP - Kilihar Fdr- II	48.42	+	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.16	+	
		Unit- IV	16.50	132kV Gelephu - Salakati Fdr.	-23.60	-	
		-	-	132kV Motanga - Rangia Fdr.	7.55	+	
		-	-	220kV Tsirang - Jigmeling	0.00	+	
		Total	49.50	Error at Station/Auxiliary Consumption/Losses	0.92		

Note: Generation-Load Summary for April 25, 2020 at 19:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import	Load Balance
1	Western Grid	409.63	232.80	221.97	176.83	10.83
2	Eastern Grid	219.74	66.48	64.63	153.26	1.85
	Total	629.37	299.28	286.60	330.09	12.68

Note: Generation-Load Summary for April 25, 2019 at 19:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import	Load Balance
1	Western Grid	827.74	245.28	235.76	564.32	9.52
2	Eastern Grid	58.47	49.77	43.24	26.84	6.53
	Total	886.21	295.05	279.00	591.16	16.05

NOTES:KHP, GEL, Motanga & MHEP Loads collected from site.

- The Instantaneous load balance is calculated as (Total generation - (Total export-Import) - Total domestic load) do not tend towards zero. This could be due to the following reasons:
 - Not all the meters are digital and nor are all the meter at all locations can be read at same time (say 9:00hrs) due to many meter to be read manually.
 - The clocks of all the locations are not synchronized.
- This report is generated to give an idea of the generation & load flow for the system at a particular instant.

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	April 26, 2020
Hours:	09:00 Hours

Date	Time	Load(MW)
27-Dec-18	18:18hrs	399.35MW

Sl. No.	Hydropower Plant	Unit	MW	Name of Feeders	Load (MW)	Sign	Remarks
1	1020MW THP	Unit- I	139.68	400kV THP - Siliguri Fdr- I	0.00		Unit- II,III,IV & V standby. 400kV THP-SIL I Maintenance
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	51.87	+	
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	48.06		
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	96.02	+	
		Unit- V	0.00	400kV Malbase - Siliguri	38.64	+	
		Unit- VI	60.50	-	-	-	
		Total	200.18	Error at Station/Auxiliary Consumption/Losses	4.23		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	88.00	+	Unit-IV Standby & Unit I AMP(11 to 30.4.2020). 400kV MHP-JLG II & III Standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	180.00	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	88.70	+	
		-	-	200MVA, 400/132kV ICT	0.00		
		-	-	(Local Load)			
		Total	180.00	Error at Station/Auxiliary Consumption/Losses	3.30		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	36.88	-	Unit-I under shutdown till 30th April & Unit III under standby. 220kV CHP-MAL under shutdown till 25.4.2020.
		Unit- II	48.74	220kV CHP - Birpara Fdr- II	36.55	-	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00	+	
		Unit- IV	47.39	220kV CHP - Semtokha Fdr- IV	9.04	+	
		-	-	220kV Malbase - Birpara Fdr.	-82.11	-	
		-	-	66kV CHP - Chumdo Fdr.	6.42	+	
		-	-	66kV CHP - Gedu Fdr.	5.15	+	
		-	-	3x3MVA, 66/11kV TFR	1.10	+	
		Total	96.13	Error at Station/Auxiliary Consumption/Losses	0.99		
4	24MW BHP (U/S)	Unit- I	4.79	220kV BHP - Semtokha Fdr.	22.11	+	U/S Unit-II & L/S Unit I standby
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	8.37	+	
		Total	4.79	220kV BHP - Tsirang Fdr.	-19.30	-	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.99	+	
		Unit- II	10.59	30MVA ICT, 220/66kV			
		Total	10.59	Error at Station/Auxiliary Consumption/Losses	3.21		
5	126MW DHPC	Unit-I	17.63	220kV DHPC - Tsirang Fdr.	17.42	+	Unit II standby.
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	17.63	Error at Station/Auxiliary Consumption/Losses	0.21		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhon Fdr- I	25.69	+	Unit II standby. 220kV JLG- TSI-JLG under breakdown
		Unit-II	12.83	132kV KHP - Kilihar Fdr- II	11.61	+	
		Unit- III	12.91	5MVA, 132/11kV TFR	0.34	+	
		Unit- IV	13.00	132kV Gelephu - Salakati Fdr.	-11.00	-	
		-	-	132kV Motanga - Rangia Fdr.	4.52	+	
		-	-	220kV Tsirang - Jigmeling	0.00	+	
		Total	38.74	Error at Station/Auxiliary Consumption/Losses	1.10		

Note: Generation-Load summary for April 26, 2020 at 09:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import	Load Balance
1	Western Grid	329.32	199.43	190.79	129.89	8.64
2	Eastern Grid	218.74	48.52	44.12	170.22	4.40
	Total	548.06	247.95	234.91	300.11	13.04

Note: Generation-Load Summary for April 26, 2019 at 09:00hrs

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NOTES: KHP,CHP,DHP,MHPA & GEL-SAL loads collected from site.

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